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momentarily at temperatures above its melting point. Such an interpretation is untrue since this phenomenon has been observed by several investigators⁹ with materials such as the minerals quartz and albite, which, while in the process of melting, may exist for some hours at temperatures above their true melting points. Correctly interpreted, Findlay's distinction holds good for cases of true metastable equilibrium, in which no change of phase is in progress, and which are the cases he evidently had in mind.

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GEOPHYSICAL LABORATORY,
CARNEGIE INSTITUTION OF WASHINGTON,
September, 1919

ORGANIZATION OF THE AMERICAN METEOROLOGICAL SOCIETY

[Objects: The advancement and diffusion of the knowledge of meteorology and climatology; and the broadening of their applications in public health, agriculture, engineering, aeronautics, industry and commerce.]

SINCE the publication of the original announcement in *SCIENCE*, August 22, 1919, pp. 180-181, several thousand circulars have been distributed among prospective members. Up to December 1, 470 had indicated their desire to join the society when organized. Roughly, the percentage make-up of these is as follows:

1. Weather Bureau	37
2. Cooperative observers of the Weather Bureau	6
3. Army, Navy and other government people professionally interested in meteorology.	8
4. Business men, farmers, engineers and others professionally interested in meteorology	8
5. Teachers and students	16
6. Canada	2
7. Latin America	3
8. Amateur meteorologists (not classed above) includes those formerly engaged in meteorological work	20
Total	100

⁹ A. L. Day and E. T. Allen, "The Isomorphism and Thermal Properties of the Feldspars," Publication No. 31 (1905) Carnegie Institution of Washington. J. B. Ferguson and H. E. Merwin, *Am. J. Sci.*, 46, 417 (1918).

Of the whole number 40 per cent. are professional meteorologists. Many have urged strongly that the practical applications of meteorology be emphasized and that special efforts be made to interest engineers, business men, shippers, farmers, fruit growers, aviators and others whose work is closely dependent on the weather. Those who study merely for its scientific interest will have much to gain from association with those who apply meteorology in the conduct of their business. Two leading views expressed concerning the type of organization are:

(1) That the society should be popular in nature in order to get as many as possible interested in the scientific aspects and applications of meteorology and climatology, and in this way to advance the science by united effort and funds to promote research, and (2) that the society should be strictly scientific, and have rigid qualifications for membership, so that the professional meteorologists can by close personal contact cooperate in research to the best advantage. These two views may not be incompatible if the society when organized welcomes as a member any one who is interested in the aims of the society, and elects from among the members, fellows, as a recognition of eminence in meteorology or climatology. It is generally agreed that all members and fellows should have the same privileges and pay the same dues. The council of the society would, naturally, be composed almost of fellows. Thus, the affairs of the society would be directed by its scientists, with the close backing of a large body of interested members.

Dues must be sufficient to pay current expenses of issuing a periodical leaflet of news, notes, queries, etc., but they must not be burdensome for the large group of underpaid government employees and teachers who are interested. If more than 500 members are procured, dues of \$1 per year would probably be sufficient. Much has been said in favor of an endowment fund, and, as some have suggested, also library, instrument, scholarship, and building funds. To procure endowment, the society will probably be incorporated

and provisions made for contributing, sustaining and patron memberships.

A preliminary meeting to discuss organization plans and to nominate officers of the American Meteorological Society will be held at the close of the meteorological program of the Philosophical Society of Washington, Saturday evening, December 20. The meeting for organization will take place at Soldan Hill School, St. Louis, December 29, at 2 P.M., and sessions for the presentation of papers will be held December 30 and 31. Joint sessions are being arranged with the American Physical Society and the Association of American Geographers for December 31 or January 1. Plans are being made for a meeting in New York on January 3.

A tentative constitution and by-laws, conforming as far as possible with the numerous and diverse suggestions received, is being drafted, and will be printed about December 10, along with the programs and abstracts of papers to be presented at the St. Louis and New York meetings. These, with details as to hotel accommodations in St. Louis, will be mailed up to December 20 to those who have indicated their desire to join the society.

CHARLES F. BROOKS

WEATHER BUREAU,
WASHINGTON, D. C.

THE AMERICAN CHEMICAL SOCIETY.

V

FERTILIZER DIVISION

F. B. Carpenter, *Chairman*

H. C. Moore, *Secretary*

Injurious effects of borax in fertilizers on crops:
B. W. KILGORE.

The conservation of nitrate of soda in the chamber process for the manufacture of sulfuric acid: ANDREW M. FAIRLIE. In connection with the prevalent protest against the high cost of food, means for conserving nitrate of soda in the manufacture of sulfuric acid has a two-fold interest: (1) The lowest possible consumption of nitrate of soda in the manufacture of sulfuric acid means low cost for producing the acid, and, as sulfuric acid is a principal item in the cost of making acid phosphate, cheaper sulfuric acid should result in cheaper phosphate, and cheaper phosphate, in

cheaper food. (2) Nitrate of soda is itself an important ingredient of fertilizer, and any decrease in the consumption of nitrate for making acid should react in favor of a decreased demand, and so of a lower price, for nitrate of soda. The various methods of introducing nitrogen compounds into the acid-making process are reviewed, and the methods in common use for controlling the chamber process are briefly described. Attention is directed to the gradual extension of the analytical method for chamber-process control, and to the improved results attained where this method has been adopted. The Gay-Lussac tower, as a means of recovering the nitrogen compounds, is not yet an ideal, nor yet an efficient, piece of apparatus, and the need exists for either (1) an improved type of Gay-Lussac tower; (2) an auxiliary to the Gay-Lussac tower; or (3) a substitute for that tower, capable of effecting a higher percentage of niter recovery.

Check meal work of the Society of Cotton Products Analysts (in particular reference to the moisture and ammonia determinations: F. N. SMALLEY.

The Deroode-perchloric acid method for determining potash: T. E. KEITT.

A rapid and accurate method for determining nitrogen in nitrate of soda by the Devarda method, and the use of the Davission scrubber bulb: C. A. BUTT. A rapid and reliable method for determining nitrogen in nitrate of soda, suitable for routine analysis, consists of reduction of the nitric nitrogen to ammonia by the use of 3 grams Devarda's Alloy, 20 mesh, in a solution of 300 c.c. volume containing 3-5 c.c. sodium hydroxide 45° Be. The distillation of the ammonia is carried out synchronously with the reduction, using the regular Kjeldahl apparatus fitted with the Davission type of scrubber, which prevents alkali mist reaching the receiving flask. An aliquot of the nitrate solution, corresponding to .8517 grams sample, is used and the ammonia collected in $N/2H_2SO_4$. Titrations are made in the usual way, using methyl red indicator. Results are reported showing accuracy of method.

The rapid and accurate determination of nitrate, as ammonia, in nitrate of soda by a modification of the Kjeldahl-Gunning method vs. the deceptive west coast or refraction method. Correct and rapid application of the modified Kjeldahl-Gunning method to mixed fertilizers containing nitrate: H. C. MOORE. The author compares the various methods in common use for analysis of nitrate of soda,